

CLEARWATER RIVER DEVELOPMENT OF
SPRING CHINOOK AND STEELHEAD STOCKS
COLUMBIA RIVER FISHERIES DEVELOPMENT PROGRAM

Annual Project Closing Report

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ABSTRACT

Spring chinook releases into the Clearwater River drainage during 1987 totaled 3,145,810 smolts, 425,380 fingerlings, and 901,248 fry. Release from Red River pond totaled 233,050 chinook fingerlings during the fall of 1987; these were Rapid River stock.

Chinook redd counts increased in the South Fork Clearwater tributaries remained stable in the Selway and decreased slightly in Lochsa tributaries in 1987 compared to 1986. Redd counts in Red River decreased from 155 to 140; however, counts in all other South Fork tributaries increased in 1987.

A total of 1.37 million eyed steelhead eggs from DNFH were placed in Red River (600,000) and Meadow Creek (770,000) incubation channels during 1987. Steelhead smolt releases in 1987 totaled 742,616 in the South Fork Clearwater and its tributaries, 156,552 in Clear Creek, and 1,206,580 into the main stem Clearwater River.

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INTRODUCTION

Historically, the Clearwater River drainage supported major runs of summer chinook salmon and summer steelhead trout. Also, it was believed the small populations of fall chinook and coho salmon spawned in the drainage. In 1927, the Washington Water Power Company built a hydroelectric dam four miles upstream from the mouth of the Clearwater. Inadequate fish passage at the dam virtually eliminated chinook runs into vast spawning and rearing areas. Although steelhead were able to negotiate the ladder, it was felt the population was reduced. It was not until the late 1940s that the passage problems were corrected and chinook began to move over the dam. In 1973, the dam was removed as part of making Lewiston an inland seaport.

In the late 1920s, another hydroelectric dam was built by Washington Water Power in the South Fork of the Clearwater River near Stites, Idaho. This dam stopped all upstream fish movement until 1963 when it was removed. In 1970, the North Fork of the Clearwater was lost to salmon and steelhead production by the construction of Dworshak Dam. Dworshak National Fish Hatchery was built to mitigate for the loss of steelhead.

This report summarizes the activities that occurred during 1987 as part of the efforts to restore salmon and steelhead to the Clearwater drainage. Also attached to the report is an appendix that describes the history of those efforts from 1961 to 1985. The historical perspective mostly covers off-site introductions of eyed eggs to hatching channels and releases of fry, fingerling and smolts, rather than detailed descriptions of hatchery operations with their success and failures. Two federal hatcheries, Dworshak and Kooskia, were completed in the early 1970s within the Clearwater drainage. A third hatchery comparable in size to Dworshak is expected to be completed by the early 1990s.

REPORT OF PROGRESS

Eyed Egg Plants and Fry Emergence

Steelhead

Plants of eyed steelhead eggs totaled 600,000 in Red River incubation channel and 770,000 in Meadow Creek (McComas Meadows) incubation channel during 1987. All eggs were collected from adults returning to DNFH and were thought to be IHN-negative. Red River and Clearwater Ranger District personnel assisted in placing the eggs in the channels and monitoring flow and fry emergence. All emerging fry were released directly into Red River and Meadow Creek, respectively. Tables 1 and 2 summarize eyed steelhead egg plants into these channels since 1978.

Table 1. Summary of eyed egg plants into Red River incubation channels, 1978-1987 (DNFH = Dworshak National Fish Hatchery).

Year	Species	Number of eggs planted	Egg source	Distribution
1978	steelhead	1,617,750	DNFH	All at channel
1979	steelhead	1,644,500	DNFH	All at channel
1980	steelhead	699,500	DNFH	All at channel
1981	steelhead	1,526,000	DNFH	All at channel
1982	steelhead	1,500,000	DNFH	All at channel
1983	steelhead	1,280,000	DNFH	All at channel
1984	steelhead	0	--	
1985	steelhead	914,350	DNFH	All at channel
1986	steelhead	0	--	
1987	steelhead	600,000	DNFH	All at channel

Table 2. Summary of eyed egg plants into Meadow Creek (South Fork Clearwater) incubation channel, 1981-1987.

Year	Species	Number of eggs planted	Egg source	Distribution
1981	steelhead	1,360,000	DNFH	All at channel
1982	steelhead	1,140,000	DNFH	All at channel
1983	steelhead	766,750 ^a	DNFH	All at channel
1984	steelhead	0		
1985	steelhead	0		
1986	steelhead	980,000	DNFH	All at channel
1987	steelhead	770,000	DNFH	All at channel

^aEggs were IHN-positive.

Spring Chinook

No eyed spring chinook eggs were planted in Idaho streams during the interval covered by this report.

Fry, Fingerling, Smolt, and Adult Releases

Steelhead

The Clearwater River and selected tributaries received a total of 2,105,748 smolts, 114,800 fingerlings, and 804 unspawned adults during 1987 (Table 3). Appendix A (Tables 6-14) summarize previous years' releases of steelhead life stages into the Clearwater River drainage since 1971.

Chinook

Table 4 summarizes spring chinook smolt, fingerling, and fry releases within the Clearwater drainage during 1987.

Chinook production from Red River rearing pond each year since its construction in 1977 is summarized in Table 5. The 1987 release was made on October 5, after three consecutive years of spring releases in 1984, 1985, and 1986. A total of 46,050 (19.81) of the 1987 release were marked. Chinook released from Red River pond in 1987 were of Rapid River origin. Spring releases in 1985 and 1986 originated from eggs taken from adults returning to Red River weir.

Spring Chinook Spawning Surveys

Spring chinook redd counts increased in the South Fork Clearwater drainage, decreased in the Lochsa drainage, and remained stable in the Selway drainage during 1987 (Table 6). Observation conditions were excellent during all of the chinook redd counts for 1987.

Red River Weir

The permanent weir structure was completed and the weir installed for the first time during the 1987 adult chinook return to Red River. A total of 519 adult chinook were trapped; 198 of these were released upstream from the weir to spawn naturally. Jacks made up 6.71 of the adult chinook trapped.

Hatchery personnel collected 312,800 green eggs from chinook trapped at the Red River weir during 1987. The eggs were transported to McCall Hatchery for hatching. However, upon discovery of IPN in these eggs, all were subsequently destroyed.

Table 3. Releases of steelhead adults, smolts, and fry from DNFH into the Clearwater River drainage during 1987.

Date	Release site	Number released	Number/ pound	Egg source
4/6	Crooked River	292	adult	DNFH
4/10	Crooked River	146	adult	DNFH
4/13	Crooked River	218	adult	DNFH
4/13	Crooked River	45,224	5.0	DNFH
4/13	Clear Creek	47,120	5.0	DNFH
4/13	S. Fk. Clearwater	38,598	5.0	DNFH
4/14	American River	10,000	5.0	DNFH
4/14	S. Fk. Clearwater	89,627	5.0	DNFH
4/14	Clear Creek	52,235	5.0	DNFH
4/14	Newsome Creek	9,000	5.0	DNFH
4/15	American River	18,160	5.0	DNFH
4/15	Crooked River	97,030	5.0	DNFH
4/15	S. Fk. Clearwater	38,385	5.0	DNFH
4/15	Crooked River	100	adult	KNFH
4/16	S. Fk Clearwater	63,642	5.0	DNFH
4/16	Newsome Creek	91,750	5.0	DNFH
4/16	Crooked River	7,200	5.0	DNFH
4/16	Clear Creek	6,580	5.0	DNFH
4/17	American River	13,167	6.0	DNFFH
4/17	S. Fk Clearwater	67,818	5.3	DNFH
4/17	Newsome Creek	71,012	5.3	DNFH
4/17	Crooked River	16,480	4.9	DNFH
4/17	Clear Creek	50,617	6.5	DNFH
4/20-23	main stem Clearwater	1,206,349	5.5	DNFH
4/29	S. Fk. Clearwater	45	adult	KNFH
9/15	Lolo Creek	114,800	138.3	DNFH
TOTAL ADULTS		804		
TOTAL SMOLTS		2,105,748		
TOTAL FINGERLINGS		114,800		

Table 4. Releases of spring chinook salmon fry, fingerling, and smolts into the Clearwater River drainage, 1987.

Date	Release site	Number released	Number/ pound	Egg source
3/16	Crooked River	122,500	25.0	Rapid R.
3/16	White Sand Creek	245,000	25.0	Rapid R.
3/18	White Sand Creek	99,900	25.0	Rapid R.
3/18	Red River	98,800	25.0	Rapid R.
3/18	Crooked River	105,000	25.0	Rapid R.
3/24	Clear Creek	763,900	19.9	
4/1	main stem Clearwater	1,062,153	18.4	
4/2	main stem Clearwater	648,557	18.4	
4/28	main stem Clearwater	1,000	10	DNFH
5/7	Crooked Fork	348,600	395.0	Rapid R.
5/8	White Sand Creek	202,400	434.0	Rapid R.
5/8	Big Flat Creek	98,000	434.0	Rapid R.
5/12	Lolo Creek	133,158	261.0	
5/12	Eldorado Creek	119,090	263.0	
9/28	main stem Clearwater	192,330	39.6	
10/5	Red River	233,050	41.7	Rapid R.
TOTAL SMOLTS		3,145,810		
TOTAL FINGERLINGS		425,380		
TOTAL FRY		901,248		

Table 5. Summary of Red River pond spring chinook production, 1977-1987.

Year	Date released into pond	Number released into pond	Number/ pound when placed in pond	Source	Date released from pond	Estimated number released from pond	Number/ pound when released	Number marked	Percent marked	Type of mark
1977 ^a	7/6-12	501,600	100	Rapid R.	8/30	350,000	ND	0	0.0	- - - - -
1978	6/28	200,025	127	Rapid R.	9/21	200,000	ND	37,200	18.6	CWT/AdC1
1979	7/2	232,500	155	Rapid R.	9/28	225,000	27	45,000	20.0	CWT/AdC1
1980	6/24	293,600	115	Rapid R.	9/18	265,000	25	51,000	19.2	CWT/AdC1
1981	5/29	282,000	140	Carson	9/10	268,000	17	9,000	3.4	Freeze brand
1982 ³	- -	0	--	- - - - -	--	--	--	--	--	- - - - -
1983	6/14	306,000	255	Rapid R.	10/20/83	260,000	21	60,000	23.1	CWT/AdC1/FB
					4/17/84	40,000 ^b	ND	40,000	100.0	CWT/AdC1/FB
1984 ^c	7/2	80,000	160	Red R.	4/18/85	80,000	22	0	0.0	- - - - -
1985 ^c	6/26	152,000	105	Red R.	4/4/86	136,800	30	0	0.0	- - - - -
1986	- -	0	--	- - - - -	--	--	--	--	--	- - - - -
1987	6/4	238,900	206	Rapid R.	10/5/87	233,000	41	46,050	19.8	CWT/AdC1/FB

^aFish were heavily infected with "Ich" in 1977 and were released early; survival was probably poor after release.

^b98,000 age 0 chinook (Rapid River stock) that were reared at Hagerman National Fish Hatchery were released into Red River near the pond in June.

^cFish overwintered in pond and released in spring.

Table 6. Clearwater River drainage Chinook salmon redd counts, 1973-1987.

Streams	Method of survey	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Five-year average	1987
Selway Drainage															
Selway River	aerial	21	58	97	125	21	40	47	38	26	30	40 ^a	31	33	34
Bear Creek	aerial	5	14	18	13	3	7	8	8	8	6	NC	10	8	9
White Cap Creek	aerial	1	4	1	NC	2	3	4	3	4	6	NC	7	5	6
Moose Creek	aerial	4	<u>15</u>	<u>23</u>	<u>17</u>	<u>4</u>	<u>4</u>	<u>6</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>NC</u>	<u>9</u>	<u>7</u>	<u>8</u>
SUBTOTAL		31	91	139	155	30	54	65	54	55	49	40	57	53	57
Lochsa Drainage															
Crooked Fork	ground	6	36	51	37	6	16	27	34	7	28	47	30	29	28
Brushy Fork	aerial	4	<u>13</u>	<u>15</u>	<u>25</u>	<u>12</u>	<u>10</u>	<u>25</u>	<u>17^b</u>	<u>6^b</u>	<u>9^b</u>	<u>14^b</u>	<u>14</u>	<u>12</u>	<u>8</u>
SUBTOTAL		10	49	66	62	18	26	52	51	13	37	61	44	41	36
South Fork Drainage															
Newsome Creek	aerial	10	5	17	22	9	7	7	5	7	1	7	7	6	20
Crooked River	aerial	41	13	50	23	4	8	9	4	12	22	10	9	11	17
Red River	aerial	20	15	50	52	20	38 ^c	80	159	193	175	222	155	181	140
American River	aerial	<u>NC</u>	<u>NC</u>	<u>NC</u>	<u>NC</u>	<u>NC</u>	<u>7</u>	<u>12</u>	<u>21</u>	<u>9</u>	<u>NC</u>	<u>23</u>	<u>14</u>	<u>16</u>	<u>31</u>
SUBTOTAL		71	33	117	97	33	60	108	189	221	198	262	185	214	208
TOTALS		112	173	322	314	81	140	225	294	278	284	363	286	308	301

^aEstimate by expansion using previous five years' ground:aerial ratio.^bGround count rather than aerial.^cNew section added from Ditch Creek to Otterson Creek.

Adult Spring Chinook Returns to the Clearwater River

Table 7 summarizes returns of adult spring chinook to the Clearwater drainage since 1950. Returns from 1950-1972 are actual counts over the old Washington Water Power Dam at Lewiston. Returns from 1973 to date are regression estimates (Figure 1) based on redd counts plus actual rack returns to DNFH and KNFH.

The estimated return of 5,135 adult spring chinook to the Clearwater drainage in 1987 is the highest since 1978 and the fourth highest since 1950. A significant portion of this total return was comprised by the 2,017 fish returning to DNFH in 1987.

Table 7. Spring chinook counts over Lewiston Dam (1950-1972), with present estimates (1973-1987).

Year	April	May	June	July	August	Total
1950				6	2	9
1951					8	35
1952				35	3	14
1953			23	15	1	66
1954			4	6	3	18
1955				4	1	13
1956		2	7	98		14
1957		11	42	13	2	151
1958				14		23
1959						10
1960						43
1961	2	24	82	28		136
1962		1	6	5	1	12
1963			5			
1964					2	66
1965	--	112	124	82		255
1966	3	75	148	129	--	428
1967	4	39	131	252	2	600
1968		186	261	528	15	2 547
1969	1	697	1,742	103	4	1 700
1970	87	427	562	620	4	2 187
1971	--	107	801	1,277	2	
1972	1	172	2,060	1,199	35	3,467

LEWISTON DAM REMOVED

	Regression estimate	KNFH rack return	DNFH rack return	Red River estimates	
1973	5,676	50			5,726
1974	2,074	37			2,111
1975	1,647	221			1,868
1976	2,544	801			3,345
1977 ^a	4,735	3,023			7,758
1978	4,618	2,045			6,663
1979	1,191	382			1,573
1980	2,059	68			2 127
1981	3,309	268			3,577
1982 ^b	1,985	255		547	2,787
1983 ^b	1,250	365		663	2,278
1984 ^b	1,603	343	82	602	2,630
1985 ^b	2,074	536	334	765	3,709
1986 ^b	1,735	281	516	534	3,066
1987 ^b	1,912	687	2,017	519 ^c	5,135

^aIncludes 1,200 adults transported from KNFH to S. Fk. Clearwater and Lochsa drainages.

^bRed River redd counts were not included in the regression estimates.

^cActual numbers trapped at new weir.

CLEARWATER RIVER CHINOOK

(1967-72)

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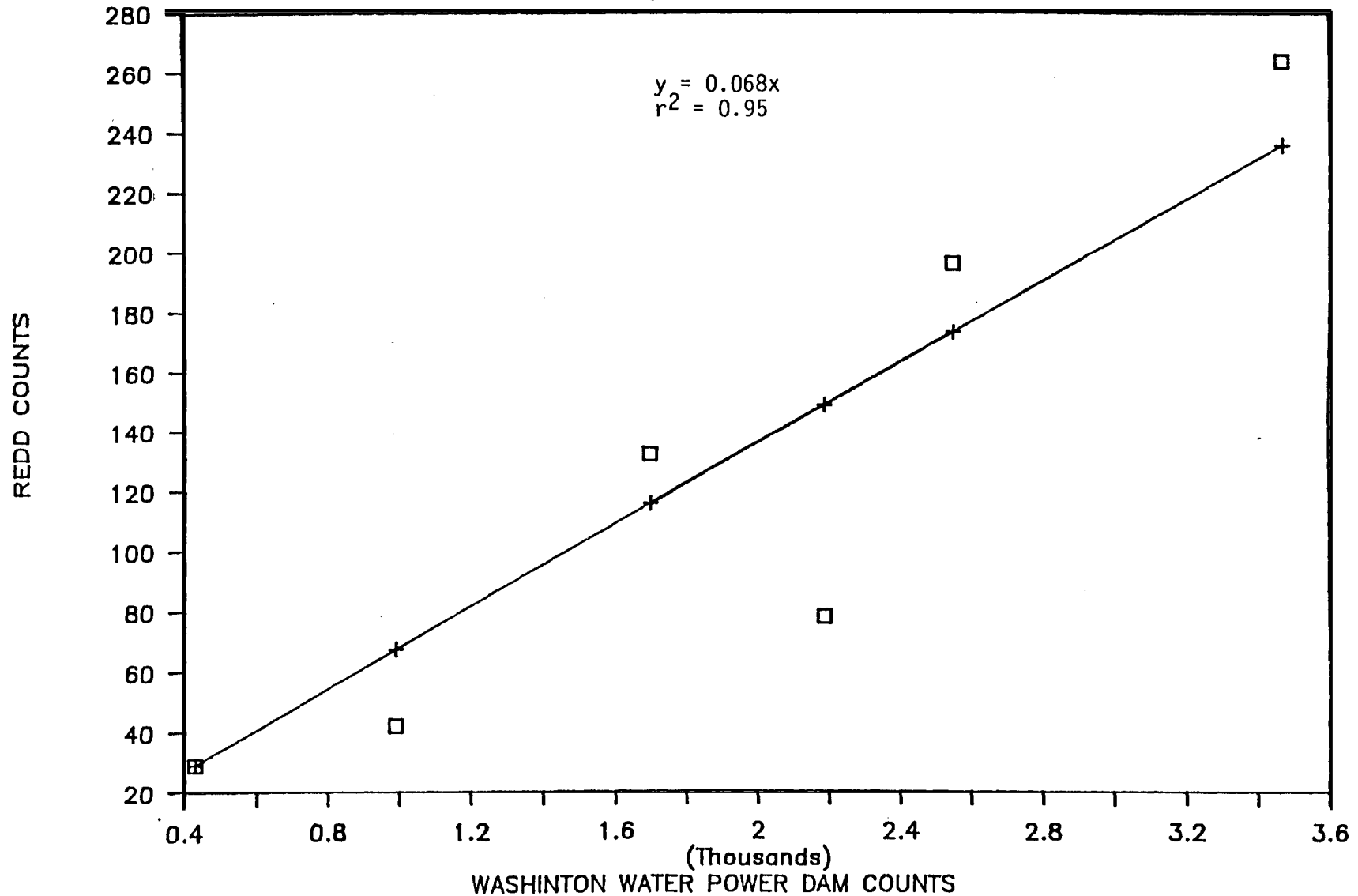


Figure 2. Regression analysis of chinook salmon redd counts vs WWP dam counts from the Clearwater River drainage between 1967-72.

Appendix A

Summary of salmon and steelhead fry-fingerlings, smolts, and adults
released into the Clearwater River drainage between 1971-1987.

Table 1. Summary of spring chinook fry, fingerlings and smolts released from Kooskia National Fish Hatchery, 1971 to 1987.

Release year	Number of smolts	Release site	Number of fry or fingerlings	Release site
1971	151,667	Clear Cr.		
	25,403	Lochsa R.		
1972	248,302	Clear Cr.	75,790	Clear Cr.
			327,831	Lochsa R.
			427,831	S.F.Clearwater R.
1973	356,190	Clear Cr.	256,396	Lochsa R.
1974	303,803	Clear Cr.		
1975	802,165	Clear Cr.	1,400	7
1976	1,299,865	Clear Cr.	71,000	Clear Cr.
1977	140,000	Clear Cr.	900,200	Clear Cr.
	360,630	Clearwater R.(Lewiston)		
1978	297,987	Clear Cr.	871,543	Clear Cr.
	73,234	Clearwater R.(Lewiston)		
	64,865	Lochsa R.		
1979	301,029	Clear Cr.	666,544	Clear Cr.
1980	766,946	Clear Cr.		
1981	382,720	Clear Cr.	571,664	Clear Cr.
1982	584,044	Clear Cr.		
1983	244,083	Clear Cr.	217,186	Clear Cr.
1984	299,176	Clear Cr.	56,683	Clearwater R.
	82,377	Dworshak Hatch.	267,406	M.F.Clearwater R.
1985	301,753	Clear Cr.		
1986	351,405	Clear Cr.		
1987	765,900	Clear Cr.		
TOTALS	8,201,544		4,711,208	

Table 2. Summary of spring chinook *fry*, fingerlings, and smolts released from Dworshak National Fish Hatchery, 1981 to 1987.

Release year	Number of smolts	Release site	Number of fry or fingerlings	Release site
1981	174,517	Clear Cr.		
1982	127,289	Clear Cr.		
	28,100	N. Fk. Clearwater R.		
1983	412,578	Clear Cr.		
	49,055	main stem Clearwater R.		
	547,027	N. Fk. Clearwater R.		
1984	221,501	Clear Cr.	153,163	Clear Cr.
	259,589	N. Fk. Clearwater R.	520,889	N.Fk.Clearwater
1985	1,137,139	N. Fk. Clearwater R.	43,000	N.Fk.Clearwater
1986	506,320			
1987	1,710,710	main stem Clearwater R.	192,330	main Clearwater
TOTALS	5,173,825		909,382	

Table 3. Spring chinook fry-fingerlings and smolts released into Lolo Creek drainage, 1972 to 1987.

Year	Release date	Release site	'Number of fry-fingerlings	Egg source
1972	None			
1973	None			
1974	None			
1975	None			
1976	None			
1977	6/13	Lolo Cr.	104,500 (190/lb.)	Rapid River
1978	None			
1979	None			
1980	None			
1981	None			
1982	None			
1983	None			
1984	None			
1985	None			
1986	4/25-5/7	Eldorado Cr.	268,527	Rapid River
1987	5/12	Lolo Cr.	133,158	
	5/12	Eldorado Cr.	119,090	

Table 4. Spring chinook fry-fingerlings and smolts released into the Lochsa River drainage, 1972 to 1987.

Year	Release date	Release site	• Number of fry-fingerlings	Number of smolts	Egg source
1972	4/19	Lochsa R.-Green Flat	122,760		KNFH
	4/19	Post Office Cr.	82,045		KNFH
	4/19	Wendover Cr.	122,760		KNFH
	6/26	Brushy Fork	59,600		Rapid R.
	6/26	Papoose Cr.	14,900		Rapid R.
	6/26	Squaw Cr.	44,700		Rapid R.
	6/26	Post Office Cr.	14,900		Rapid R.
	6/26	Fish Cr.	<u>44,700</u>		Rapid R.
		Subtotal	506,365		
1973	4/10	White Sand Cr.		60,000	Rapid R.
	4/11	Squaw Cr.		30,000	Rapid R.
	4/11	Post Office Cr.		25,000	Rapid R.
	6/5	Post office Cr.	100,000		KNFH
	6/5	Wendover Cr.	100,000		KNFH
	6/5	Lochsa R.-Green Flat	<u>56,396</u>		KNFH
		Subtotal	256,396	<u>115,000</u>	
1974	None				
1975	3/25	White Sand Cr.		48,600 (27/lb.)	Rapid R.
	3/26	Boulder Cr.		48,600 (27/lb.)	Rapid R.
	3/27	White Sand Cr.		<u>83,600</u> (27/lb.)	Rapid R.
		Subtotal		180,800	
1976	4/27-5/5	White Sand Cr.		166,750 (23/lb.)	Rapid R.
1977	4/5-7	White Sand Cr.		183,600	Rapid R.
	6/8-7/19	Brushy Fork Cr.	568,100		Rapid R.
		Crooked Fork Cr.	<u>193,600</u>		Rapid R.
		Subtotal	761,700	<u>183,600</u>	
1978	4/19-25	White Sand Cr.		115,200	Rapid R.
	6/7	Squaw Cr.	119,500		Rapid R.
	6/7	Post Office Cr.	119,500		Rapid R.
	7/6	Crooked Fork Cr.	270,000		Rapid R.
	7/7	Brushy Fork Cr.	270,000		Rapid R.
	8/8	Lochsa R.	148,500		Rapid R.
	8/8	Squaw Cr.	<u>71,500</u>		Rapid R.
		Subtotal	999,000	<u>115,200</u>	

Table 4. Continued.

Year	Release date	Release site	Number of fry- fingerlings	Number of smolts	Egg source
1979	4/18-26	White Sand Cr.	153,362		Rapid R.
1980	None				
1981	None				
1982	None				
1983	None				
1984	None				
1985	None				
1986	5/8	Crooked Fork	199,566		Rapid R.
	5/8	White Sand	70,435		Rapid R.
	6/27	Brushy Fork	115,352		Rapid R.
	10/7-10/14	White Sand		348,420	Rapid R.
1987	3/16	White Sand Cr.		245,000	Rapid R.
	3/18	White Sand Cr.		99,900	Rapid R.
	5/7	Crooked Fork	348,600		Rapid R.
	5/8	White Sand Cr.	202,400		Rapid R.
	5/8	Big Flat Cr.	98,000		Rapid R.

Table 5. Chinook fry-fingerlings and smolts released into the South Fork Clearwater drainage (excluding Red River pond), 1972 to 1987.

Year	Release date	Release site	Number of fry-fingerlings	Number of smolts	Egg source
1972	6/26	Ten Mile Cr.	29,800		Rapid R.
	6/26	American River	44,700		Rapid R.
	6/26	Red River	104,300		Rapid R.
	4/18	Newsome Cr.	126,360		KNFH
	4/18	Red River	298,511		KNFH
	4/18	American River	<u>65,000</u>		KNFH
		Subtotal	668,671		
1973	4/2-3	Red River		120,160	Rapid R.
	4/3	Newsome Cr.		33,772	Rapid R.
	4/3	American River		33,772	Rapid R.
	4/3	Crooked River		<u>9,599</u>	Rapid R.
		Subtotal		197,303	
1974	6/19-20	Ten Mile Cr.	86,000		Rapid R.
	6/19	Newsome Cr.	<u>18,000</u>		Rapid R.
		Subtotal	104,000		
1975	4/9	Newsome Cr.		40,950(19.5/lb.)	Rapid R.
	4/9	Crooked River		40,950(19.5/lb.)	Rapid R.
	4/10	So. Fk. Clearwater R.		11,700(19.5/lb.)	Rapid R.
	4/10	Red River		<u>23,400</u> (19.5/lb.)	Rapid R.
		Subtotal		117,000	
1976	4/13-14	Red River		66,600(20/lb.)	Rapid R.
	4/14	So. Fk. Clearwater R.		30,100(17/lb.)	Rapid R.
	4/14-15	Crooked River		53,100(20/lb.)	Rapid R.
	4/15	Newsome Cr.		<u>56,100</u> (17/lb.)	Rapid R.
		Subtotal		205,300	
1977	3/29	Newsome Cr.		31,500	Rapid R.
	3/29-30	Red River		43,500	Rapid R.
	3/30	Crooked River		63,000	Rapid R.
	3/31-4/2	So. Fk. Clearwater R.		<u>111,750</u>	Rapid R.
		Subtotal		249,750	
1978	4/25	Red River		33,600	Rapid R.
	7/11	Newsome Cr.	76,500		Rapid R.
	7/11	Ten Mile Cr.	<u>103,500</u>		Rapid R.
		Subtotal	180,000	33,600	
1979	4/24	Newsome Cr.		44,373	Rapid R.

Table 5. Continued.

Year	Release date	Release site	Number of fry-fingerlings	Number of smolts	Egg source
1980	None				
1981	None				
1982	None				
1983	None				
1984	None				
1985	None				
1986	4/24-28	Crooked River	220,140		Rapid R.
	6/24		49,437		Rapid R.
	6/25-28	Newsome Creek	102,282		Rapid R.
	10/8	Red River		96,400	Sawtooth
	10/8-15	Crooked River		251,300	Sawtooth
1987	3/16	Crooked River		122,500	Rapid R.
	3/18	Red River		98,800	Rapid R.
	3/18	Crooked River		105,000	Rapid R.

Table 6. Steelhead fry, smolts, and adults released into the Lochsa River drainage between 1973 to 1987. All fish were of DNFH origin.

Year	Release date	Release site	Number of fry	Number of smolts	Number of adults
1973	5/15	Lochsa River		1,200 (11/lb)	
	6/12	Brushy Fork Cr.	374,195		
	6/12	Crooked Fork Cr.	<u>374,195</u>		
		Subtotal	748,390	1,200	
1974	5/13-16	Lochsa River			697
	7/2	Post Office Cr.	50,000		
	7/2	Squaw Cr.	100,000		
	7/2	Papoose Cr.	100,000		
	7/2	White Sand Cr.	<u>100,000</u>		
		Subtotal	350,000		697
1975			0		
1976			0		
1977	6/23	Post Office Cr.	90,000		
	6/24	Weir Cr.	90,000		
	6/24	Deadman Cr.	<u>90,000</u>		
		Subtotal	270,000		
1978	6/12	Pete King Cr.	150,000		
	6/12	Canyon Cr.	150,000		
	6/12	Deadman Cr.	300,000		
	6/13	Spruce Cr.	300,000		
	6/14	Squaw Cr.	150,000		
	6/15	Post Office Cr.	150,000		
	6/16	Shotgun Cr.	300,000		
	6/16	Papoose Cr.	<u>200,000</u>		
		Subtotal	1,700,000		
1979	6/11	Pete King Cr.	80,000		
	6/11	fish Cr.	80,000		
	6/11	Post Office Cr.	80,000		
	6/11	Squaw Cr.	80,000		
	6/11	Badger Cr.	41,000		
	6/11	Crooked Fork	80,000		
	6/21	Brushy Fork	350,000		
	6/21	Pack Creek	<u>50,000</u>		
		Subtotal	841,000		

Table 6. Continued.

Year	Release date	Release site	Number of fry	Number of smolts	Number of adults
1980	4/11-19	Lochsa River			445
	6/17	Lochsa River	500,000		
	7/7	Brushy Fork Cr.	314,985		
	9/24	White Sands Cr.	45,000		
	9/25	Pete King Cr.	30,000		
	9/24	Fish Cr.	20,000		
	9/24	Post Office Cr.	30,000		
	9/24	Squaw Cr.	25,000		
	9/24	Badger Cr.	23,000		
	9/24	Papoose Cr.	<u>20,000</u>		
		Subtotal	1,007,985		445
1981	3/25-26	Post Office Cr.			162
	3/31	Squaw Cr.			86
	6/2	Squaw Cr.	240,000		
	6/8	Papoose Cr.	340,000		
	6/9	Pete King	140,500		
	6/9	Post Office	140,500		
	6/15	Brushy Fork	60,000		
	6/15	Badger Cr.	60,000		
	6/22	White Sand Cr.	356,000		
	6/29	Brushy Fork Cr.	<u>250,000</u>		
		Subtotal	1,587,000		248
1982	6/16	Pete King Cr.	58,000		
	6/16	Squaw Cr.	100,000		
	6/16	Badger Cr.	<u>58,000</u>		
		Subtotal	216,000		
1983			NONE		
1984			NONE		
1985			NONE		
1986			NONE		
1987			NONE		

Table 7. Steelhead fry, smolts, and adults released into the South Fork Clearwater River drainage between 1971 to 1987. All fish were of DNFH origin.

Year	Release date	Release site	Number of fry	Number of smolts	Number of adults
1971	7/14	Crooked River	<u>256,000</u>		
		Subtotal	256,000		
1972			NONE		
1973	4/20-5/3	S. F. Clearwater drainage	1,365,000		
	10/25	S. F. Clearwater	<u>217,800</u>		
		Subtotal	1,582,800		
1974	7/1	Mill Cr.	100,000		
	7/1	Newsome Cr.	100,000		
	7/1	Crooked River	<u>200,000</u>		
		Subtotal	400,000		
1975			NONE		
1976			NONE		
1977	6/3	Meadow Cr.	712,00		
	6/9	Red River	275,000		
	6/9	Crooked River	275,000		
	6/27	S. F. Clearwater	330,000		
	6/29	Tenmile Cr.	<u>300,000</u>		
		Subtotal	1,892,000		
1978	4/17	S. F. Clearwater			800
	4/21	Newsome Cr.			400
	4/27	Newsome Cr.			272
	4/28	Crooked River			200
	5/1	Red River			350
	5/3	Crooked River			460
	6/6	Meadow Cr.	500,000		
	6/7	Leggett Cr.	100,000		
	6/7	Crooked River	300,000		
	6/7	Newsome Cr.	<u>125,000</u>		
		Subtotal	1,015,000		2,482

Table 7. Continued.

Year	Release date	Release site	Number of fry	Number of smolts	Number of adults
1979	4/12	Newsome Cr.			250
	6/4	Meadow Cr.	280,000		
	6/18	Leggett Cr.	100,000		
	6/18	Newsome Cr.	100,000		
	6/18	Crooked River	100,000		
	6/18	Red River	100,000		
	6/18	American River	100,000		
	6/25	Johns Cr.	<u>420,000</u>		
		Subtotal	1,200,000		250
1980	6/18	S. F. Clearwater	500,000		
	7/3	Meadow Cr.	<u>271,400</u>		
		Subtotal	771,400		
1981	4/27	S. F. Clearwater (Mt Idaho)		215,675	
	4/28	S. F. Clearwater (Mt Idaho)		145,362	
	4/29	S. F. Clearwater (Mt Idaho)		<u>72,435</u>	
		Subtotal		433,472	
	5/27	Leggett Cr.	30,000		
	5/27	Newsome Cr.	100,000		
	5/27	Crooked River	100,000		
	5/28	Red River	100,000		
	5/28	American River	<u>100,000</u>		
		Subtotal	430,000		
1982	5/4	S. F. Clearwater (Mt Idaho)		137,875	
	5/5	S. F. Clearwater (Mt Idaho)		104,416	
	5/6	S. F. Clearwater (Mt Idaho)		<u>139,520</u>	
		Subtotal		381,811	
1983	5/9	S. F. Clearwater (Mt Idaho)		101,289	
	5/10	S. F. Clearwater (Mt Idaho)		104,685	
	5/11	S. F. Clearwater (Mt Idaho)		96,734	
	5/12	S. F. Clearwater (Mt Idaho)		92,676	
	5/13	S. F. Clearwater (Mt Idaho)		<u>101,087</u>	
		Subtotal		496,471	

Table 7. Continued.

Year	Release date	Release site	Number of fry	Number of smolts	Number of adults
1984	4/30	S. F. Clearwater (Mt Idaho)		115,766	
	5/1	S. F. Clearwater (Mt Idaho)		66,988	
	5/2	S. F. Clearwater (Mt Idaho)		<u>46,088</u>	
		Subtotal		228,842	
1985	4/3-17	American River			1,891
	4/18-5/2	Newsome Cr.			2,043
	4/24-5/2	Crooked River			2,030
	4/29-30	American River		138,077	
	4/29-30	Crooked River		18,508	
	5/1	American River		24,034	
	5/1	Crooked River		15,962	
	5/1	Crooked River		7,765	
	5/1-2	Newsome Cr.		<u>95,286</u>	
		Subtotal		299,632	
1986	4/14-23	American River		189,307	
	4/16	Elk Creek		48,388	
	4/15-18	Crooked River		140,823	
	4/17-30	Newsome Cr.		212,188	
	4/30	Legget Cr.		8,904	
	4/17-28	S. F. Clearwater (Mt. Idaho)		755,698	
	6/26	Crooked River	87,750		
1987	4/6-15	Crooked River			759
	4/13-17	Crooked River		165,934	
	4/13-17	main stem South Fk.		298,070	
	4/29	main stem South Fk.			45
	4/14-17	American River		41,327	
	4/14-17	Newsome Creek		171,768	

Table 8. Steelhead smolts released into Clear Creek between 1978 to 1987. All fish were of DNFH origin.

Year	Release date	Release site	Number of smolts	Number/ pound
1978	4/11	Clear Cr.	176,714	11.0
	4/19	Clear Cr.	<u>9,800</u>	9.8
		Subtotal	186,514	
1979				
1980				
1981	4/29	Clear Cr.	<u>73,213</u>	8.1
		Subtotal	73,213	
1982				
1983	5/11	Clear Cr.	94,530	6.5
	5/12	Clear Cr.	97,239	6.5
	5/13	Clear Cr.	58,659	7.0
		Subtotal	250,428	
1984	5/3	Clear Cr.	<u>246,123</u>	5.5
		Subtotal	246,123	
1985	4/30-5/1	Clear Cr.	<u>145,206</u>	9.3
		Subtotal	145,206	
1986	4/22-29	Clear Cr.	<u>165,483</u>	6.6
		Subtotal	165,483	
1987	4/13-17	Clear Creek	156,522	5.0

Table 9. Steelhead fry, smolts, and adults released into the bolo Creek drainage between 1974 to 1987. All fish were of DNFH origin.

Year	Release date	Release site	Number of fry	Number of smolts	Number of adults
1974	12/4	Musselshell Cr.	230,335 (76/lb.)	101,995	
	5/8	Musselshell Cr.			
	5/9	Lolo Cr.			400
	5/10	Lolo Cr.			407
		Subtotal	230,335	101,995	807
1975					
1976					
1977	6/10	Lolo Cr.	<u>300,000</u>		
		Subtotal	300,000		
1978	4/6	Lolo Cr.			600
	4/20	Lolo Cr.			800
	6/5	Lolo Cr.	<u>520,000</u>		
		Subtotal	520,000		1,400
1979	6/11	Lolo Cr.	379,236		
		Subtotal	379,236		
1980	4/26	Lolo Cr.			165
	5/15	Lolo Cr.	100,000		
	9/25	Lolo Cr.	<u>40,000</u>		
		Subtotal	140,000		165
1981					
1982					
1983	4/12	Lolo Cr.			150
	5/26	Eldorado Cr.	<u>625,000</u>		
		Subtotal	625,000		150

Table 9. Continued.

Year	Release date	Release site	Number of fry	Number of smolts	Number of adults
1984					
1985	4/17-19	Eldorado Cr.			1,150
	4/29-30	Eldorado Cr.		76,348	
	5/1	Eldorado Cr.		<u>44,936</u>	
		Subtotal		121,284	1,150
1986	3/28	Eldorado Cr.			155
	4/21-29	Eldorado Cr.		204,362	
1987	9/15	Lolo Creek	114,800		

Table 10. Steelhead fry, smolts, and adults released into the Potlatch Creek drainage between 1977 to 1987. All fish were of DNFH origin.

Year	Release date	Release site	'Number of fry	Number of smolts	Number of adults
1977	5/19	E. F. Potlatch Cr.	186,192		
	6/30	E. F. Potlatch Cr.	170,000		
	6/30	Potlatch	<u>175,000</u>		
		Subtotal	531,192		
1978	4/24	Potlatch Cr.			200
	4/5	Potlatch Cr.			<u>280</u>
		Subtotal			480
1979	5/4	Potlatch Cr.	<u>170,000</u>		
		Subtotal	170,000		
1980	5/14	Potlatch Cr.	125,000		
		Subtotal	125,000		
1981	5/26	E. F. Potlatch Cr.	<u>100,000</u>		
		Subtotal	100,000		
1982					
1983	4/15	Potlatch Cr.			81
	4/19	Potlatch Cr.			<u>71</u>
		Subtotal			152
1984					
1985	3/27	Cedar Cr.			402
	3/28	E. F. Potlatch Cr.			383
	4/3	Little Boulder Cr.			<u>408</u>
		Subtotal			1,193
1986				NONE	
1987				NONE	

Appendix B

Summary of salmon and steelhead eyed eggs placed into
the Clearwater River drainage between 1961-80.

Eyed Egg Plants, 1961-1980

Spring Chinook

The initial reintroduction of spring chinook in the Clearwater River drainage began in 1961 when eyed spring chinook eggs were placed in trenches dug in the gravel in the Selway River above the Little Clearwater River and in Bear Creek. From 1961-1964, a total of 3,741,864 eyed eggs from Salmon River spring chinook were placed in the Selway River. During the same time interval, 3,569,000 eyed spring chinook eggs from the Carson National Hatchery were placed in Bear Creek (Table 1).

In 1964, an incubation channel was constructed on Running Creek, another Selway River tributary. From 1964-1969, a total of 2,445,257 eyed spring chinook eggs from the Carson National Hatchery were placed in the Running Creek channel. In 1970, the last year the channel was used, 500,714 eyed eggs from Rapid River Hatchery were used. Emergence percentages during the years fry were enumerated ranged from 18 to 79% (Table 2).

In 1966, another Selway tributary incubation channel was constructed on Ditch Creek. From 1966-1968, a total of 1,703,590 eyed spring chinook eggs from Carson National Hatchery were placed in the Ditch Creek channel. In 1970, the last year the channel was used, 550,600 eyed eggs from Rapid River Hatchery were planted. Emergence percentages during the three years of enumeration ranged from 26 to 100% (Table 3).

An incubation channel was also constructed at Indian Creek, another Selway River tributary, in 1966. From 1966 to 1979, a total of 28,330,655 eyed spring chinook eggs were placed in the channel. A total of 11,136,142 fry were enumerated from the channel during the interval of 1966-1978. Emergence percentage ranged from 17 to 74% and averaged 44% (Table 4). Fry were distributed to various locations in the Selway drainage (Tables 5-15).

Red River Incubation Channel was originally constructed in 1964 and utilized for incubation of steelhead and coho eggs from 1964-1969, but was used for spring chinook eggs from 1970-1976. During five years, a total of 5,159,345 eyed spring chinook eggs were planted. No eggs were available for this channel in 1971 and 1974 (Table 16). Emergent fry migrated directly into Red River without enumeration (Table 17).

Crooked River Incubation Channel was originally constructed in 1966 and utilized for coho and steelhead eggs from 1966-1968, but was used for spring chinook eggs from 1970-1978. The channel was filled in and leveled with a bulldozer in 1979. From 1970-1978 a total of 9,323,468 eyed spring chinook eggs were placed in the channel (Table 18). No eggs were available in 1974. Some limited fry trapping and distribution to Newsome Creek occurred in 1971, 1972 and 1974 (Table 19).

Totaling all five channels, plus the eggs placed in the Selway River and Bear Creek, approximately 55,000,000 eyed spring chinook eggs were planted in the Clearwater Drainage between 1961 and 1980.

Coho

Red River Incubation Channel utilized a total of 2,780,250 eyed coho eggs in 1963, 1964, and 1965. Emergence percentages ranged from 55 to 59.7% (Table 17).

Crooked River Incubation Channel utilized a total of 8,066,000 eyed coho eggs in 1966, 1967 and 1968. Emergence percentages ranged from 16 to 26%. The coho program was terminated in 1969 (Table 19).

Steelhead

Red River Incubation Channel utilized a total of 3,738,874 steelhead eggs from 1962-1969. All eggs were taken at the old Lewiston Dam (Table 16). Emergence percentages ranged from 74 to 85% (Table 17). From 1970-1976, the channel was used for spring chinook eggs. During 1978 and 1979, steelhead eggs were again placed in the channel (Table 16).

In 1966, a total of 480,598 steelhead eggs were placed in Crooked River Channel (Table 18). The emergence percentage that year was 91% (Table 19). This was the only year steelhead eggs were placed in this channel.

Fall Chinook

An incubation channel near Fenn Ranger Station on the lower Selway River was utilized for fall chinook eyed eggs from 1960-1967. During that time, a total of 6,733,000 eyed eggs were planted. These eggs were obtained from Spring Creek Hatchery on the lower Columbia River. No eggs were available in 1965. Due to poor adult returns, the program was terminated in 1968 (Table 20).

Table 1. Summary of spring chinook eyed egg plants into the upper Selway River and Bear Creek, 1961-1964.

Year	Location planted	Number of eggs planted	Egg source
1961	Selway River above		
	Little Clearwater	845,000	Salmon River
	Bear Creek	610,000	Carson National
1962	Selway River above		
	Little Clearwater	1,111,000	Salmon River
	Bear Creek	959,000	Carson National
1963	Selway River above		
	Little Clearwater	860,000	Salmon River
	Bear Creek	1,000,000	Carson National
1964	Selway River above		
	Little Clearwater	925,864	Salmon River
	Bear Creek	1,000,000	Carson National

Table 2. Summary of spring chinook eyed egg plants and emergent fry,
Running Creek Incubation Channel, 1964-1970.

Year	Number of eggs planted	Number of fry emerging	Percent emergence	Egg source
1964	285,162	--	--	Adults trapped at Bonneville and eggs taken at Carson
1965	634,943	156,307	55	
1966	405,400	200,000	31	National Hatchery
1967	427,300	73,028 ^{1/}	18	" "
1968	450,000	159,000 ^{1/}	37	" "
1969	242,453	353,097	79	" "
1970	500,714	Not enumerated		Rapid River
1971		Not enumerated		
Total	2,945,972			

The channel was constructed in 1964 and egg plants were
discontinued in 1971.

^{1/}Flooding and/or debris problems at headgate.

Table 3. Summary of spring chinook eyed egg plants and emergent fry,
Ditch Creek Incubation Channel, 1966-1970.

Year	Number of eggs planted	Number of fry emerging	Percent emergence	Egg source
1966	612,800			Carson National (adults trapped at Bonneville)
1967	589,000	594,337	97	
1968	501,790	598,000	100+	" "
1969	None	130,033	26	" "
1970	550,600	--		Rapid River
1971	None	Not enumerated		
Total	2,254,190			

The channel was constructed in 1966 and egg plants were
discontinued in 1971.

Table 4. Summary of spring chinook eyed egg plants and emergent fry,
Indian Creek Incubation Channel, 1966-1979.

Year	Number of eggs planted	Number of fry emerging	Percent emergence	Egg source
1966	1,010,487			Salmon River (Bear Valley, Decker, Lemhi)
1967	998,160	424,623	42	Salmon River
1968	2,729,100	743,000	74	Salmon River
1969	1,125,136	1,221,69	45	Salmon River and Carson Natl.
1970	2,215,941	405,682	36	Rapid River
1971	1,623,080	839,716	38	Carson National
1972	2,956,179	524,710	32	Rapid River
1973	2,029,316	1,613,55	55	Rapid River
1974	2,207,000	962,335	48	Cowlitz Hatchery
1975	2,406,731	770,000	35	Rapid River
1976	1,613,383	400,000	17	Rapid River
1977	2,740,470	723,960	45	Rapid River
1978	2,135,672	1,458,98	53	Rapid River
1979	2,540,000	1,047,89	49	Cowlitz Hatchery

Table 5. Indian Creek Hatching Channel spring chinook fry distribu-
tion, 1969.

Release dates	Water	Release site	Number of fry
May 13	Selway River	Magruder R.S.	39,500
May 14	Seaway River	Magruder R.S.	23,000
May 20	Deep Creek	Scattered locations	59,500
May 24	Selway River	Magruder R.S.	71,500
May 27	Deep Creek	Scattered locations	123,000
June 2	Selway River	Paradise G.S.	250,000
June 4	Selway River	Paradise G.S.	46,000
June 4	White Cap Creek	5 miles up	109,000
June 7	Selway River	Magruder R.S.	44,500
June 9	White Cap Creek	10 miles up	126,000
June 9	Selway River	Paradise G.S.	103,000
June 19	Selway River	Paradise G.S.	10,000
June 19	White Cap Creek	15 miles up	90,000
April-June	Selway River	At the channel	126,696
Approximate total			1,221,696

Table 6. Indian Creek Hatching Channel spring chinook fry transplants, 1970.

Release dates	Water	Release site	Number of fry
May 20	Selway River	Magruder R.S.	25,800
June 3	Deep Creek	At Scimitar Creek	15,280
June 3	Deep Creek	At Hell's Half Acre Bridge	16,160
June 10	Selway River	Beaver Point	15,825
June 10	White Cap Creek	Paradise G.S.	15,300
June 24	Storm Creek	Storm Creek Flat	76,160
June 24	White Cap Creek	Cooper Flat	76,160
June 24	Selway River	Beaver Point	13,680
June 24	Selway River	Magruder R.S.	13,680
May-June	Selway River	At Channel	<u>107,637</u>
		Approximate Total	375,682

Table 7. Chinook salmon fry transplants from Indian Creek Hatching Channel, 1971.

Release dates	Water	Release site	Number of fry
May 27	Selway River	Beaver Point	76,456
May 29	White Cap Creek	Paradise G.S.	112,044
June 4	Selway River	Magruder R.S.	50,687
June 10	Deep Creek	Cayuse Creek	63,634
June 17	Selway River	Magruder R.S.	134,005
June 22	Storm Creek	Storm Creek Flat	104,880
June 24	Storm Creek	Storm Creek Flat	110,400
June 25	White Cap Creek	Paradise G.S.	104,448
July 3	Selway River	Beaver Point	83,162
		Approximate Total	839,716

Table 8. Indian Creek Hatching Channel spring chinook fry transplants, 1972.

Release dates	Water	Release site	Number of fry
June 2	White Cap Creek	Paradise G.S.	21,660
June 2	Selway River	Magruder R.S.	21,280
June 6	Selway River	Beaver Point	24,320
June 6	Deep Creek	Scimitar Creek	24,320
June 6	Deep Creek	Cayuse Creek	30,400
June 6	Selway River	Magruder Crossing	24,320
June 12	White Cap Creek	Paradise G.S.	31,680
June 12	Deep Creek	Hell's Half Acre	22,140
June 20	Selway River	Magruder Crossing	38,000
June 20	Seaway River	Magruder Mountain	38,000
June 20	White Cap Creek	Cooper's Flat	50,400
June 27	Deep Creek	Gabe Creek	35,700
June 27	Storm Creek	Storm Creek Flat	107,665
June 30	Moose Creek		<u>54,825</u>
		Approximate Total	524,710

Table 9. Indian Creek hatching channel chinook fry transplants through June 20, 1973.

Release dates	Water	Release site	Number of fry
May 16	Selway River	Beaver Point	47,250
May 16	Selway River	Magruder R.S.	48,600
May 18	Storm Creek	Storm Creek Flat	200,000
May 18	White Cap Creek	Cooper's Flat	180,000
May 18	Selway River	Washout Creek	16,000
May 18	Selway River	Beaver Point	36,000
May 24	Moose Creek	Elbows Bend	146,200
May 24	Selway River	Beaver Point	36,000
May 26	White Cap Creek	Paradise G.S.	63,000
May 26	Deep Creek	Gabe Creek	69,300
May 27	Deep Creek	Kit Carson	50,400
May 28	White Cap Creek	Paradise G.S.	37,800
May 29	Selway River	Magruder R.S.	53,650
May 29	Seaway River	Magruder Crossing	50,400
June 2	White Cap Creek	Paradise G.S.	75,600
June 2	Selway River	Magruder Crossing	50,400
June 2	Selway River	Beaver Point	63,000
June 3	Selway River	Magruder R.S.	50,400
June 3	Deep Creek	Scimitar Creek	78,750
June 5	Deep Creek	Kit Carson	44,100
June 6	Selway River	Beaver Point	50,500
June 6	Selway River	Magruder R.S.	34,650
June 9	White Cap Creek	Paradise G.S.	40,950
June 9	Selway River	Magruder R.S.	12,600
June 9	Deep Creek	Gabe Creek	31,500
June 9	Deep Creek	Scimitar Creek	22,050
June 9	Deep Creek	Kit Carson	9,450
June 11	Selway River	Magruder R.S.	46,000
Approximate Total			1,644,550

Table 10. Indian Creek hatching channel chinook fry transplants,
1972.

Release dates	Water	Release site	Number of fry
May 9	White Cap Creek	Paradise G.S.	50,000
May 9	Selway River	Magruder R.S.	50,000
May 10	Deep Creek	Pete Creek	50,000
May 13	Selway River	Beaver Point	50,000
May 13	Deep Creek	Gabe Creek	50,000
May 23	Wilkerson Creek	Storm Creek	100,000
May 24	White Cap Creek	Cooper's Flat	40,000
May 30	White Cap Creek	3 miles above Cooper's Flat	100,000
May 30	Moose Creek	4 miles above Elbows Bend	90,000
June 11	Deep Creek	Scimitar Creek	43,050
May & June	Selway River	At hatching channel	339,285
		Approximate Total	962,335

Table 11. Indian Creek Hatching Channel chinook fry transplants,
1975.

Release dates	Water	Release site	Number of fry
May 29	Storm Creek	Storm Creek Flat	77,435
May 29	Selway River	Magruder Crossing	9,265
June 4	White Cap Creek	Cooper's Flat	84,000
June 4	Selway River	Magruder R.S.	12,000
June 17	Deep Creek	Hell's Half Acre	16,300
June 26	Deep Creek	Pete Creek	19,000
July 5	Selway River	Magruder Crossing	7,000
May & June	Selway River	At hatching channel	84,000
		Approximate Total	309,000

Table 12. Indian Creek Hatching Channel chinook fry transplants, 1976.

Release dates	Water	Release site	Number of fry
May 21	White Cap Creek	Paradise	30,240
May 21	Selway River	Beaver Point	40,320
May 21	Selway River	Magruder Crossing	44,640
May 21	Deep Creek	Cayuse Creek	10,080
May 21	Selway River	Magruder R.S.	44,550
May 28	Storm Creek	Storm Creek Flat	62,910
May 28	White Cap Creek	Cooper's Flat	66,060
May & June	Selway River	At hatching channel	53,220
Approximate Total			352,020

Table 13. Indian Creek Hatching Channel chinook fry transplants, 1977.

Release dates	Water	Release site	Number of fry
May 15	Seaway River	At hatching channel	76,840
May 20	Selway River	Magruder Crossing	36,770
May 24	White Cap Creek	Paradise	60,920
May 30	Deep Creek	Cayuse Creek	31,514
May 30	Deep Creek	Gabe Creek	31,514
May 30	Selway River	Magruder R.S.	31,514
June 1	Selway River	Magruder Crossing	12,960
June 4	Selway River	Beaver Point	31,280
June 4	Selway River	Magruder Crossing	31,280
June 6	Selway River	At hatching channel	10,500
June 7	White Cap Creek	Cooper's Flat	82,600
June 7	Storm Creek	Storm Creek Flat	82,600
June 7	Selway River	At hatching channel	42,000
June 14	Selway River	Magruder Crossing	33,000
June 14	Selway River	Beaver Point	33,000
June 14	Selway River	Magruder R.S.	11,900
June 20	Selway River	At hatching channel	6,700
Approximate Total			646,892

Table 14. Indian Creek Hatching Channel chinook fry transplants, 1978.

Release dates	Water	Release site	Number of fry
April 27	Selway River	At hatching channel	26,480
May 4	Selway River	Magruder Crossing	28,600
May 4	Selway River	Beaver Point	28,600
May 4	White Cap Creek	Paradise	28,600
May 7	Deep Creek	Below Cayuse Creek	28,600
May 7	Deep Creek	CCC Camp	28,600
May 7	Selway River	Magruder R.S.	28,600
May 11	Selway River	Magruder R.S.	34,000
May 11	Selway River	Magruder Crossing	34,000
May 12	White Cap Creek	Paradise	30,600
May 14	Deep Creek	Cayuse Creek	42,500
May 14	Deep Creek	Hell's Half Acre Bridge	42,500
May 15	Selway River	At hatching channel	83,600
May 16	White Cap Creek		34,000
May 16	Snake Creek		34,000
May 18	Selway River	Magruder R.S.	34,000
May 18	Deep Creek	CCC Camp	34,000
May 20	Selway River	Beaver Point	34,000
May 20	Selway River	Magruder Crossing	34,000
May 24	Selway River	Magruder Crossing	51,000
May 24	Selway River	Magruder R.S.	51,000
May 24	White Cap Creek	Paradise	34,000
May 31	White Sand Creek	White Sand Creek Bridge	42,500
May 31	Lochsa River	Mouth of Brushy Fork Ck	42,500
May 31	Selway River	Magruder Crossing	68,000
May 31	Selway River	Beaver Point	68,000
June 1	White Cap Creek	Paradise	51,000
June 1	Selway River	Magruder R.S.	68,000
June 3	White Cap Creek	Paradise	68,000
June 3	Deep Creek	Kit Carson	68,000
June 3	Deep Creek	CCC Camp	68,000
June 5	Selway River	At hatching channel	69,700
June 11	Selway River	At hatching channel	40,000
Approximate Total			1,458,980

Table 15. Indian Creek Hatching Channel chinook fry transplants into the Selway River drainage, 1979.

Release dates	Water	Release site	Number of fry
April 23 -			
May 11	Selway River	At hatching channel	35,475
May 14	Selway River	Beaver Point	20,150
May 15	Selway River	Magruder R.S.	20,150
May 16	Snake Creek		18,060
May 17	Deep Creek	Cayuse Creek	50,400
May 18	Selway River	Deep Creek	36,960
May 19	White Cap Creek		16,800
May 21	White Cap Creek	Paradise	33,600
May 23	Selway River	Beaver Point	67,200
May 24	Selway River	Magruder R.S.	35,200
May 25	White Cap Creek	Paradise	13,400
May 29	Deep Creek	CCC Camp	67,200
May 31	Selway River	Deep Creek	15,200
June 2	Selway River	Magruder Crossing	41,280
June 3	White Cap Creek	Paradise	41,280
June 4	Selway River	Beaver Point	69,120
June 5	Selway River	Magruder R.S.	41,280
June 8	Selway River	Beaver Point	35,360
June 9	White Cap Creek	Paradise	54,400
June 10	Selway River	Deep Creek	54,400
June 11	Selway River	Magruder R.S.	54,400
June 12	Selway River	At hatching channel	27,200
June 12	White Cap Creek	Paradise	27,200
June 15-20	Selway River	At hatching channel	72,175
		Total counted	947,890
		Estimate into river from overflow	100,000
		Grand total	1,047,890
		Eyed eggs placed in channel	2,135,672
		Percent emergence	49.1

Table 16. Summary of eyed egg plants into Red River Incubation Channel, 1962-1980.

Year	Species	Number of eggs planted	Egg source
1962	Steelhead	102,500	Clearwater River (Lewiston Dam)
1963	Steelhead	484,000	Clearwater River (Lewiston Dam)
	Coho	600,000	Eagle Creek Hatchery (Oregon)
1964	Steelhead	390,897	Clearwater River (Lewiston Dam)
	Coho	1,000,250	
1965	Steelhead	249,682	Clearwater River (Lewiston Dam)
	Coho	1,180,000	
1966		0	
1967	Steelhead	848,455	Clearwater River (Lewiston Dam)
1968	Steelhead	963,340	Clearwater River (Lewiston Dam)
1969	Steelhead	700,000	Dworshak Dam
1970	Spring chinook	1,631,500	Rapid River Hatchery
1971		0	
1972	Spring chinook	1,293,552	Rapid River Hatchery
1973	Spring chinook	551,628	Rapid River Hatchery
1974		0	
1975	Spring chinook	1,400,000	Cowlitz Hatchery
1976	Spring chinook	282,625	Rapid River Hatchery
1977		0	
1978	Steelhead	1,617,750	Dworshak Hatchery
1979	Steelhead	1,644,500	Dworshak Hatchery
1980	Steelhead	669,500	Dworshak Hatchery

Table 17. Summary of anadromous salmonid fry emerging from Red River Incubation Channel, 1964-1980.

Brood year	Year emerging	Species	Number of fry emerging	Percent emergence	Distribution
1964	1964	Steelhead	298,000	76	American River and Red River
1964	1965	Coho	552,831	55	American River, Crooked River, Shissler Creek
1965	1965	Steelhead	212,507	85	American River, Crooked River, Shissler Creek
1965	1966	Coho	690,947	59	Upper Red River, American River, Crooked River, Shissler Creek
1967	1967	Steelhead	705,322	83	American River, Crooked River, Big Elk, Leggett and Newsome creeks
1968	1968	Steelhead	709,800	74	Red River and Crooked River, Shissier, Newsome and Pat Brennan-creeks
1969-1970	1969-1970	Steelhead	Not enumerated		All at channel
1970	1971	Spring chinook	Estimated 90% mortality		All at channel
1971	1972	No eggs planted			
1972	1973	Spring chinook	No enumeration		All at channel
1973	1974	Spring chinook	No enumeration		All at channel
1974	1975	No eggs planted			
1975	1976	Spring chinook	No enumeration		All at channel
1976	1977	Spring chinook	No enumeration		All at channel
1977	1977	No eggs planted			
1978 ^{1/}	1978	Steelhead	No enumeration		All at channel
1979	1979	Steelhead	No enumeration		All at channel
1980	1980	Steelhead	No enumeration		All at channel

^{1/}USFS commenced operation of the channel.

Table 18. Summary of eyed egg plants into Crooked River Incubation Channel, 1966-1979.

Year	Species	Number of eggs planted	Egg source
1966	Steelhead	480,598	Clearwater River (Lewiston Dam)
	Coho	3,000,000	--
1967	Coho	3,066,000	Washougal
1968	Coho	2,000,000	Cascade National
1969		0	
1970	Spring chinook	1,608,262	Rapid River
1971	Spring chinook	800,000	Carson National
1972	Spring chinook	1,525,131	Rapid River
1973	Spring chinook	930,000	Rapid River
1974		0	
1975	Spring chinook	1,687,000	Cowlitz Hatchery
1976	Spring chinook	485,735	Rapid River
1977	Spring chinook	1,037,340	Rapid River
1978	Spring chinook	1,250,000	Rapid River
1979	Channel terminated (lease expired)		

Table 19. Summary of anadromous salmonid fry emerging from Crooked River Incubation Channel, 1966-1979.

Brood year	Year emerging	Species	Number of fry emerging	Percent emergence	Distribution
1966	1966	Steelhead	436,956	91	South Fork tributaries
1966	1967	Coho	824,949	26	Red River, American River, Big Elk Creek, Newsome Creek
1967	1968	Coho	487,960	16	At channel
1968	1969	Coho	Not enumerated	--	--
1969	1970	No eggs planted		--	--
1970	1971	Spring chinook	39,856	--	Newsome Creek and Red River
1971	1972	Spring chinook	113,400	--	Newsome Creek
1972	1973	Spring chinook	No enumeration	--	All at
1973	1974	Spring chinook	34,920	--	Newsome Creek
1974	1975	No eggs planted		--	--
1975	1976	Spring chinook	No enumeration	--	All at channel
1976	1977	Spring chinook	No enumeration	--	All at channel
1977	1978	Spring chinook	No enumeration	--	All at channel
1978	1979	Spring chinook	No enumeration	--	All at channel
1979	Lease expired so channel was terminated.				

Table 20. Summary of fall chinook eyed egg plants and emergent fry, Fenn Incubation Channel on the lower Selway River, 1960-1967.

Year	Number of eggs planted	Number of fry emerging	Percent emergence	Egg source
1960	535,000	Not enumerated	--	Spring Creek National
1961	750,000	Not enumerated	--	Spring Creek National
1962	400,000	Not enumerated	--	Spring Creek National
1963	1,000,000	Not enumerated	--	Spring Creek National
1964	1,000,000	Not enumerated	--	Spring Creek National
1965	0	62,000	6	
1966	1,500,000	--	--	Spring Creek National
1967 ^{1/}	1,548,000	1,485,965	99	Spring Creek National
1968	0	687,000	44	
Total	6,733,000			

Fall chinook program discontinued in 1968.

^{1/}This year 587,917 fall chinook fingerlings were also released into Middle Fork Clearwater River.

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